

MITSUBISHI

MITSUBISHI CARBIDE

Changeable Insert Type Drill

B060E

TAW

Stable performance from a versatile, changeable insert type drill

New through hole
clamping type for
added reliability

NEW



H Type Insert



U Type Insert



High rigidity grade for longer tool life

MIRACLE coating is ideal for drilling due to its high welding resistance. Suitable for machining a wide range of workpiece materials from Mild and Alloy steels through to Stainless steels and Cast iron.



Indexable Type Drill

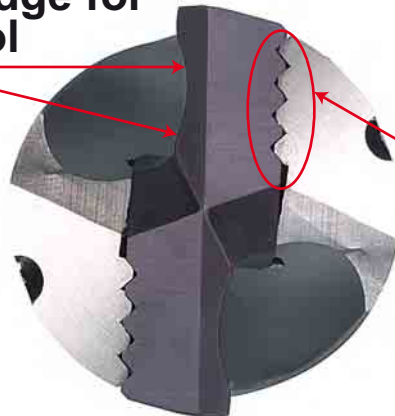
TAW Drill

Features

Designed for extreme sharpness and accuracy

Wave Type Cutting Edge for Superior Chip Control

The wave edge design achieves sharp peripheral edge cutting performance with a strong initial cutting point near the center.





Cutting edge shape

Serrated Insert Clamping Geometry

Mitsubishi's unique serration structure allows high clamping accuracy to be maintained.

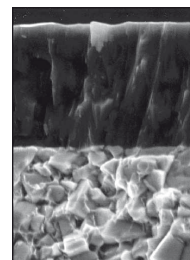
Insert selection

New through hole clamping type for added reliability.

U Type Insert	H Type Insert
	
Easy change type	Extra secure clamping

Exceptional tool life

- **MIRACLE**® coated **VP15TF** delivering exceptional tool life.



VP15TF

Features of VP15TF

MIRACLE coated VP15TF is ideal for drilling due to its' high resistance to chip welding. Suitable for machining a wide range of workpiece materials from Mild and Alloy steels through to Stainless steels and Cast iron.

Easy change (U Type Insert)

- Inserts can be replaced easily by loosening a single clamp screw.



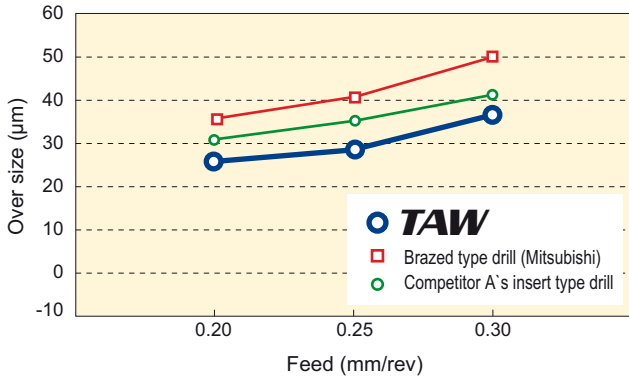
High durability body

- The cutter bodies are made resistant to corrosion and abrasion by using a superior, high heat resistant alloy and a special surface treatment.



Cutting Performance

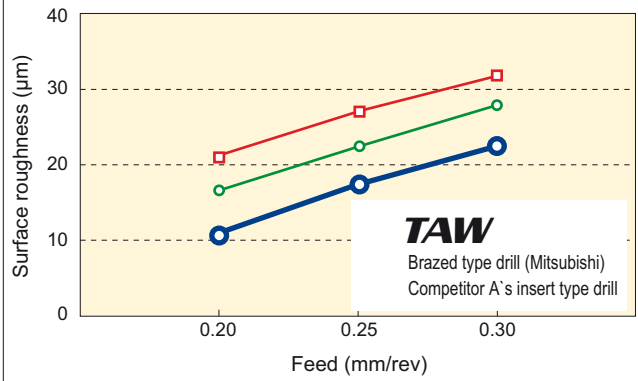
Over Size



<Cutting conditions>

Workpiece : DIN C50(150 - 180HB)
 Drill Diameter : $\phi 20(L/D=5)$
 Cutting Speed : 80m/min
 Coolant : Emulsion 10%
 Pressure : 0.5MPa(Internal Coolant)

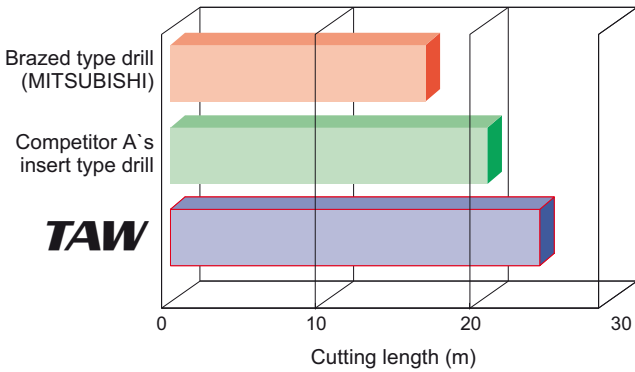
Surface Roughness



<Cutting conditions>

Workpiece : DIN C50(150 - 180HB)
 Drill Diameter : $\phi 20(L/D=5)$
 Cutting Speed : 80m/min
 Coolant : Emulsion 10%
 Pressure : 0.5MPa(Internal Coolant)

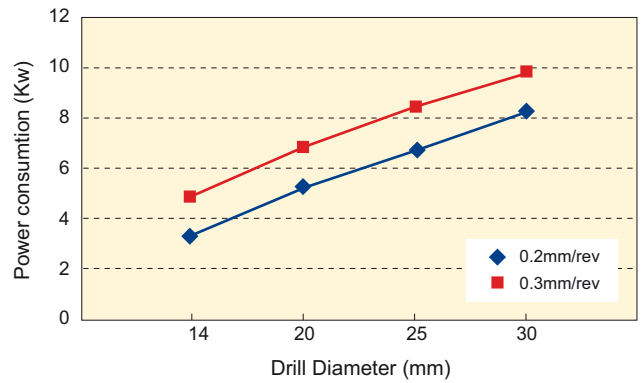
Insert Life



<Cutting conditions>

Workpiece : DIN C50(150 - 180HB) Coolant : Emulsion 10%
 Drill Diameter : $\phi 20(L/D=5)$ Pressure : 0.5MPa(Internal Coolant)
 Cutting speed : 100m/min
 Feed : 0.25mm/rev

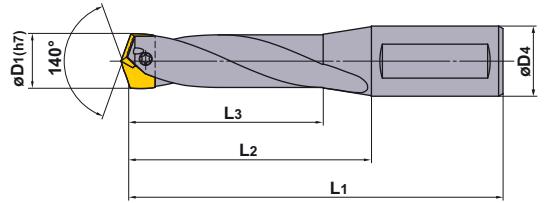
Power Consumption



<Cutting conditions>

Workpiece : DIN C50 (150 - 180HB)
 Cutting speed : 80m/min
 Coolant : Emulsion 10%
 Pressure : 0.5MPa(Internal Coolant)

(General Use)







Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert		Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant		
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1					D4	
						VP15TF	VP10H								
14.0 14.4	3	NEW TAWSNH1400S16	●	14.0	TAWNH1400T	●	□	51	67	115	16	WS254012T	TKY08D	WPT4405	MK1KS
				14.1	TAWNH1410T	●	□								
				14.2	TAWNH1420T	●	□								
	5	NEW TAWMNH1400S16	●	14.3	TAWNH1430T	●	□	80	97	145	16	WS254012T	TKY08D	WPT4405	MK1KS
				14.4	TAWNH1440T	●	□								
14.5 15.4	3	NEW TAWSNH1500S20	●	14.5	TAWNH1450T	●	□	54	75	125	20	WS254013T	TKY08D	WPT4405	MK1KS
				14.6	TAWNH1460T	●	□								
				14.7	TAWNH1470T	●	□								
				14.8	TAWNH1480T	●	□								
				14.9	TAWNH1490T	●	□								
	5	NEW TAWMNH1500S20	●	15.0	TAWNH1490T	●	□	85	105	155	20	WS254013T	TKY08D	WPT4405	MK1KS
				15.1	TAWNH1510T	●	□								
				15.2	TAWNH1520T	●	□								
				15.3	TAWNH1530T	●	□								
				15.4	TAWNH1540T	●	□								
15.5 16.4	3	TAWSN1600S20	●	15.5	TAWN1550T	★	□	58	80	130	20	WS254014T	TKY08D	WPT4405	MK1KS
				TAWNH1550T	●	□									
				15.6	TAWN1560T	★	□								
				TAWNH1560T	●	□									
				15.7	TAWN1570T	★	□								
				TAWNH1570T	●	□									
				15.8	TAWN1580T	★	□								
	TAWNH1580T	●	□												
	5	TAWMN1600S20	●	15.9	TAWN1590T	★	□	91	115	165	20	WS254014T	TKY08D	WPT4405	MK1KS
				TAWNH1590T	●	□									
				16.0	TAWN1600T	★	□								
				TAWNH1600T	●	□									
				16.1	TAWN1610T	★	□								
				TAWNH1610T	●	□									
				16.2	TAWN1620T	★	□								
TAWNH1620T				●	□										
16.3	TAWN1630T	★	□												
TAWNH1630T	●	□													
16.4	TAWN1640T	★	□												
TAWNH1640T	●	□													

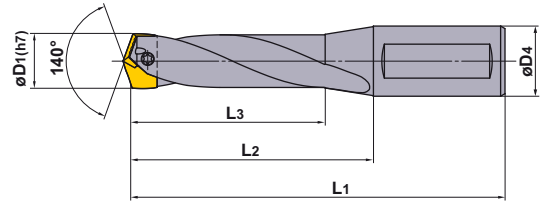
(Note) 1.L1, L2, L3 are the dimensions with an H type insert.

2.Please contact us for any type that is not shown in this literature

(e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)							
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4				
						VP15TF	VP10H					Clamp Screw	Wrench	Plate	Anti-seize Lubricant
16.5 17.4	3	TAWSN1700S20	●	16.5	TAWN1650T	★	<input type="checkbox"/>	61	85	135	20	WS254015T	①TKY08D	WPT4405	MK1KS
					TAWNH1650T	●	<input type="checkbox"/>								
				16.6	TAWN1660T	★	<input type="checkbox"/>								
					TAWNH1660T	●	<input type="checkbox"/>								
				16.7	TAWN1670T	★	<input type="checkbox"/>								
					TAWNH1670T	●	<input type="checkbox"/>								
	16.8	TAWN1680T	★	<input type="checkbox"/>											
		TAWNH1680T	●	<input type="checkbox"/>											
	16.9	TAWN1690T	★	<input type="checkbox"/>											
		TAWNH1690T	●	<input type="checkbox"/>											
	17.0	TAWN1700T	★	<input type="checkbox"/>											
		TAWNH1700T	●	<input type="checkbox"/>											
	17.1	TAWN1710T	★	<input type="checkbox"/>											
		TAWNH1710T	●	<input type="checkbox"/>											
5	TAWMN1700S20	●	17.2	TAWN1720T	★	<input type="checkbox"/>	96	120	170	20	WS254015T	①TKY08D	WPT4405	MK1KS	
				TAWNH1720T	●	<input type="checkbox"/>									
			17.3	TAWN1730T	★	<input type="checkbox"/>									
				TAWN1730TH	●	<input type="checkbox"/>									
			17.4	TAWN1740T	★	<input type="checkbox"/>									
				TAWNH1740T	●	<input type="checkbox"/>									
			17.5	TAWN1750T	★	<input type="checkbox"/>									
				TAWNH1750T	●	<input type="checkbox"/>									
			17.6	TAWN1760T	★	<input type="checkbox"/>									
				TAWNH1760T	●	<input type="checkbox"/>									
17.5 18.4	3	TAWSN1800S20	●	17.7	TAWN1770T	★	<input type="checkbox"/>	65	90	140	20	WS254016T	①TKY08D	WPT4405	MK1KS
					TAWNH1770T	●	<input type="checkbox"/>								
				17.8	TAWN1780T	★	<input type="checkbox"/>								
					TAWNH1780T	●	<input type="checkbox"/>								
				17.9	TAWN1790T	★	<input type="checkbox"/>								
					TAWNH1790T	●	<input type="checkbox"/>								
	18.0	TAWN1800T	★	<input type="checkbox"/>											
		TAWNH1800T	●	<input type="checkbox"/>											
	18.1	TAWN1810T	★	<input type="checkbox"/>											
		TAWNH1810T	●	<input type="checkbox"/>											
	18.2	TAWN1820T	★	<input type="checkbox"/>	102	125	175	20	WS254016T	①TKY08D	WPT4405	MK1KS			
		TAWNH1820T	●	<input type="checkbox"/>											
	18.3	TAWN1830T	★	<input type="checkbox"/>											
		TAWNH1830T	●	<input type="checkbox"/>											
18.4	TAWN1840T	★	<input type="checkbox"/>												
	TAWNH1840T	●	<input type="checkbox"/>												
18.5 19.4	3	TAWSN1900S25	●	18.5	TAWN1850T	★	<input type="checkbox"/>	68	99	155	25	WS304517T	②TKY10T	WPT4405	MK1KS
					TAWNH1850T	●	<input type="checkbox"/>								
				18.6	TAWN1860T	★	<input type="checkbox"/>								
					TAWNH1860T	●	<input type="checkbox"/>								
				18.7	TAWN1870T	★	<input type="checkbox"/>								
					TAWNH1870T	●	<input type="checkbox"/>								
	18.8	TAWN1880T	★	<input type="checkbox"/>											
		TAWNH1880T	●	<input type="checkbox"/>											
	18.9	TAWN1890T	★	<input type="checkbox"/>											
		TAWNH1890T	●	<input type="checkbox"/>											
	19.0	TAWN1900T	★	<input type="checkbox"/>											
		TAWNH1900T	●	<input type="checkbox"/>											
	19.1	TAWN1910T	★	<input type="checkbox"/>	107	134	190	25	WS304517T	②TKY10T	WPT4405	MK1KS			
		TAWNH1910T	●	<input type="checkbox"/>											
19.2	TAWN1920T	★	<input type="checkbox"/>												
	TAWNH1920T	●	<input type="checkbox"/>												
19.3	TAWN1930T	★	<input type="checkbox"/>												
	TAWNH1930T	●	<input type="checkbox"/>												
19.4	TAWN1940T	★	<input type="checkbox"/>												
	TAWNH1940T	●	<input type="checkbox"/>												

(General Use)







Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant		
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1					D4	
						VP15TF	VP10H									
19.5 20.4	3	TAWSN2000S25	●	19.5	TAWN1950T	★	<input type="checkbox"/>	72	99	155	25	WS304518T	TKY10T	WPT4405	MK1KS	
					TAWNH1950T	●	<input type="checkbox"/>									
					19.6	TAWN1960T	★									<input type="checkbox"/>
						TAWNH1960T	●									<input type="checkbox"/>
					19.7	TAWN1970T	★									<input type="checkbox"/>
						TAWNH1970T	●									<input type="checkbox"/>
	19.8	TAWN1980T	★	<input type="checkbox"/>												
		TAWNH1980T	●	<input type="checkbox"/>												
	5	TAWMN2000S25	●	20.0	TAWN2000T	★	<input type="checkbox"/>	113	139	195	25	WS304518T	TKY10T	WPT4405	MK1KS	
					TAWNH2000T	●	<input type="checkbox"/>									
					20.1	TAWN2010T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2010T	<input type="checkbox"/>									<input type="checkbox"/>
					20.2	TAWN2020T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2020T	<input type="checkbox"/>									<input type="checkbox"/>
20.3					TAWN2030T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2030T	<input type="checkbox"/>	<input type="checkbox"/>									
20.4	TAWN2040T	<input type="checkbox"/>	<input type="checkbox"/>													
	TAWNH2040T	<input type="checkbox"/>	<input type="checkbox"/>													
20.5 21.4	3	TAWSN2100S25	●	20.5	TAWN2050T	★	<input type="checkbox"/>	75	99	155	25	WS304518T	TKY10T	WPT4405	MK1KS	
					TAWNH2050T	●	<input type="checkbox"/>									
					20.6	TAWN2060T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2060T	<input type="checkbox"/>									<input type="checkbox"/>
					20.7	TAWN2070T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2070T	<input type="checkbox"/>									<input type="checkbox"/>
	20.8	TAWN2080T	<input type="checkbox"/>	<input type="checkbox"/>												
		TAWNH2080T	<input type="checkbox"/>	<input type="checkbox"/>												
	20.9	TAWN2090T	<input type="checkbox"/>	<input type="checkbox"/>												
		TAWNH2090T	<input type="checkbox"/>	<input type="checkbox"/>												
	5	TAWMN2100S25	●	21.0	TAWN2100T	★	<input type="checkbox"/>	118	139	195	25	WS304518T	TKY10T	WPT4405	MK1KS	
					TAWNH2100T	●	<input type="checkbox"/>									
					21.1	TAWN2110T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2110T	<input type="checkbox"/>									<input type="checkbox"/>
21.2					TAWN2120T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2120T	<input type="checkbox"/>	<input type="checkbox"/>									
21.3					TAWN2130T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2130T	<input type="checkbox"/>	<input type="checkbox"/>									
21.4	TAWN2140T	<input type="checkbox"/>	<input type="checkbox"/>													
	TAWNH2140T	<input type="checkbox"/>	<input type="checkbox"/>													
21.5 22.4	3	TAWSN2200S25 TAWMN2200S25	●	21.5	TAWN2150T	★	<input type="checkbox"/>	79.3	104.3	160.3	25	WS355520T	TKY15T	WPT4405	MK1KS	
					TAWNH2150T	●	<input type="checkbox"/>									
					21.6	TAWN2160T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2160T	<input type="checkbox"/>									<input type="checkbox"/>
					21.7	TAWN2170T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2170T	<input type="checkbox"/>									<input type="checkbox"/>
					21.8	TAWN2180T	<input type="checkbox"/>									<input type="checkbox"/>
						TAWNH2180T	<input type="checkbox"/>									<input type="checkbox"/>
21.9	TAWN2190T	<input type="checkbox"/>	<input type="checkbox"/>													
	TAWNH2190T	<input type="checkbox"/>	<input type="checkbox"/>													

(Note) 1. L1, L2, L3 are the dimensions with an H type insert.

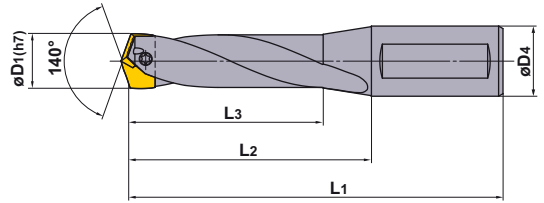
2. Please contact us for any type that is not shown in this literature.

(e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

● : Inventory maintained. ★ : Inventory maintained in Japan. □ : Non stock, produced to order only.

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)								
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4					
						VP15TF	VP10H					Clamp Screw	Wrench	Plate	Anti-seize Lubricant	
21.5 22.4	5	TAWSN2200S25 TAWMN2200S25	●	22.0	TAWN2200T	★	<input type="checkbox"/>	124.3	144.3	200.3	25	WS355520T	TKY15T	WPT4405	MK1KS	
					TAWNH2200T	●	<input type="checkbox"/>									
				22.1	TAWN2210T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2210T	<input type="checkbox"/>	<input type="checkbox"/>									
				22.2	TAWN2220T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2220T	<input type="checkbox"/>	<input type="checkbox"/>									
				22.3	TAWN2230T	<input type="checkbox"/>	<input type="checkbox"/>									
	TAWNH2230T	<input type="checkbox"/>	<input type="checkbox"/>													
				22.4	TAWN2240T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2240T	<input type="checkbox"/>	<input type="checkbox"/>									
22.5 23.4	3	TAWSN2300S25	●	22.5	TAWN2250T	★	<input type="checkbox"/>	82.3	104.3	160.3	25	WS355521T	TKY15T	WPT4405	MK1KS	
					TAWNH2250T	●	<input type="checkbox"/>									
				22.6	TAWN2260T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2260T	<input type="checkbox"/>	<input type="checkbox"/>									
				22.7	TAWN2270T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2270T	<input type="checkbox"/>	<input type="checkbox"/>									
					22.8	TAWN2280T	<input type="checkbox"/>	<input type="checkbox"/>								
						TAWNH2280T	<input type="checkbox"/>	<input type="checkbox"/>								
					22.9	TAWN2290T	<input type="checkbox"/>	<input type="checkbox"/>								
						TAWNH2290T	<input type="checkbox"/>	<input type="checkbox"/>								
		5	TAWMN2300S25	●	23.0	TAWN2300T	★	<input type="checkbox"/>	129.3	154.3	210.3	25	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2300T	●	<input type="checkbox"/>									
	23.1				TAWN2310T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2310T	<input type="checkbox"/>	<input type="checkbox"/>									
23.2	TAWN2320T				<input type="checkbox"/>	<input type="checkbox"/>										
	TAWNH2320T				<input type="checkbox"/>	<input type="checkbox"/>										
23.3	TAWN2330T				<input type="checkbox"/>	<input type="checkbox"/>										
	TAWNH2330T				<input type="checkbox"/>	<input type="checkbox"/>										
				23.4	TAWN2340T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2340T	<input type="checkbox"/>	<input type="checkbox"/>									
23.5 24.4	3	TAWSN2400S32	●	23.5	TAWN2350T	★	<input type="checkbox"/>	86.3	110.3	170.3	32	WS355521T	TKY15T	WPT4405	MK1KS	
					TAWNH2350T	●	<input type="checkbox"/>									
				23.6	TAWN2360T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2360T	<input type="checkbox"/>	<input type="checkbox"/>									
				23.7	TAWN2370T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2370T	<input type="checkbox"/>	<input type="checkbox"/>									
					23.8	TAWN2380T	<input type="checkbox"/>	<input type="checkbox"/>								
						TAWNH2380T	<input type="checkbox"/>	<input type="checkbox"/>								
					23.9	TAWN2390T	<input type="checkbox"/>	<input type="checkbox"/>								
						TAWNH2390T	<input type="checkbox"/>	<input type="checkbox"/>								
		5	TAWMN2400S32	●	24.0	TAWN2400T	★	<input type="checkbox"/>	135.3	160.3	220.3	32	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2400T	●	<input type="checkbox"/>									
	24.1				TAWN2410T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2410T	<input type="checkbox"/>	<input type="checkbox"/>									
24.2	TAWN2420T				<input type="checkbox"/>	<input type="checkbox"/>										
	TAWNH2420T				<input type="checkbox"/>	<input type="checkbox"/>										
24.3	TAWN2430T				<input type="checkbox"/>	<input type="checkbox"/>										
	TAWNH2430T				<input type="checkbox"/>	<input type="checkbox"/>										
				24.4	TAWN2440T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2440T	<input type="checkbox"/>	<input type="checkbox"/>									
24.5 25.4	3	TAWSN2500S32 TAWMN2500S32	●	24.5	TAWN2450T	★	<input type="checkbox"/>	88.6	110.6	170.3	32	WS406023T	TKY25T	WPT4405	MK1KS	
					TAWNH2450T	●	<input type="checkbox"/>									
				24.6	TAWN2460T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2460T	<input type="checkbox"/>	<input type="checkbox"/>									
				24.7	TAWN2470T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2470T	<input type="checkbox"/>	<input type="checkbox"/>									
				24.8	TAWN2480T	<input type="checkbox"/>	<input type="checkbox"/>									
	TAWNH2480T	<input type="checkbox"/>	<input type="checkbox"/>													
				24.9	TAWN2490T	<input type="checkbox"/>	<input type="checkbox"/>									
					TAWNH2490T	<input type="checkbox"/>	<input type="checkbox"/>									

(General Use)







Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant	
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1	D4					
						VP15TF	VP10H								
24.5 25.4	5	TAWSN2500S32 TAWMN2500S32	●	25.0	TAWN2500T	★	<input type="checkbox"/>	140.6	165.6	225.6	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2500T	●	<input type="checkbox"/>								
				25.1	TAWN2510T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2510T	<input type="checkbox"/>	<input type="checkbox"/>								
				25.2	TAWN2520T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2520T	<input type="checkbox"/>	<input type="checkbox"/>								
				25.3	TAWN2530T	<input type="checkbox"/>	<input type="checkbox"/>								
	TAWNH2530T	<input type="checkbox"/>	<input type="checkbox"/>												
	25.4	TAWN2540T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2540T	<input type="checkbox"/>	<input type="checkbox"/>											
25.5 26.4	3	TAWSN2600S32	●	25.5	TAWN2550T	★	<input type="checkbox"/>	92.6	115.6	175.6	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2550T	●	<input type="checkbox"/>								
				25.6	TAWN2560T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2560T	<input type="checkbox"/>	<input type="checkbox"/>								
				25.7	TAWN2570T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2570T	<input type="checkbox"/>	<input type="checkbox"/>								
				25.8	TAWN2580T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2580T	<input type="checkbox"/>	<input type="checkbox"/>											
		25.9	TAWN2590T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2590T	<input type="checkbox"/>	<input type="checkbox"/>										
	5	TAWMN2600S32	●	26.0	TAWN2600T	★	<input type="checkbox"/>	146.6	170.6	230.6	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2600T	●	<input type="checkbox"/>								
				26.1	TAWN2610T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2610T	<input type="checkbox"/>	<input type="checkbox"/>								
26.2				TAWN2620T	<input type="checkbox"/>	<input type="checkbox"/>									
				TAWNH2620T	<input type="checkbox"/>	<input type="checkbox"/>									
26.3				TAWN2630T	<input type="checkbox"/>	<input type="checkbox"/>									
	TAWNH2630T	<input type="checkbox"/>	<input type="checkbox"/>												
	26.4	TAWN2640T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2640T	<input type="checkbox"/>	<input type="checkbox"/>											
26.5 27.4	3	TAWSN2700S32	●	26.5	TAWN2650T	★	<input type="checkbox"/>	94.6	115.6	175.6	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2650T	●	<input type="checkbox"/>								
				26.6	TAWN2660T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2660T	<input type="checkbox"/>	<input type="checkbox"/>								
				26.7	TAWN2670T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2670T	<input type="checkbox"/>	<input type="checkbox"/>								
				26.8	TAWN2680T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2680T	<input type="checkbox"/>	<input type="checkbox"/>											
		26.9	TAWN2690T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2690T	<input type="checkbox"/>	<input type="checkbox"/>										
	5	TAWMN2700S32	●	27.0	TAWN2700T	★	<input type="checkbox"/>	151.6	175.6	235.6	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2700T	●	<input type="checkbox"/>								
				27.1	TAWN2710T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2710T	<input type="checkbox"/>	<input type="checkbox"/>								
27.2				TAWN2720T	<input type="checkbox"/>	<input type="checkbox"/>									
				TAWNH2720T	<input type="checkbox"/>	<input type="checkbox"/>									
27.3				TAWN2730T	<input type="checkbox"/>	<input type="checkbox"/>									
	TAWNH2730T	<input type="checkbox"/>	<input type="checkbox"/>												
	27.4	TAWN2740T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2740T	<input type="checkbox"/>	<input type="checkbox"/>											

(Note) 1.L1, L2, L3 are the dimensions with an H type insert.

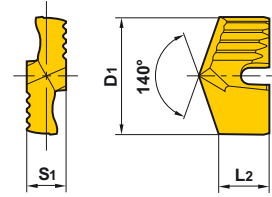
2.Please contact us for any type that is not shown in this literature.

(e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

● : Inventory maintained. ★ : Inventory maintained in Japan. □ : Non stock, produced to order only.

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)							
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4				
						VP15TF	VP10H								
27.5 28.4	3	TAWSN2800S32	●	27.5	TAWN2750T	★	<input type="checkbox"/>	97.2	120.2	180.2	32	WS508026T	TKY27T	WPT4405	MK1KS
					TAWNH2750T	●	<input type="checkbox"/>								
				27.6	TAWN2760T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2760T	<input type="checkbox"/>	<input type="checkbox"/>								
				27.7	TAWN2770T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2770T	<input type="checkbox"/>	<input type="checkbox"/>								
				27.8	TAWN2780T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2780T	<input type="checkbox"/>	<input type="checkbox"/>											
		27.9	TAWN2790T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2790T	<input type="checkbox"/>	<input type="checkbox"/>										
		28.0	TAWN2800T	★	<input type="checkbox"/>										
			TAWNH2800T	●	<input type="checkbox"/>										
		28.1	TAWN2810T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2810T	<input type="checkbox"/>	<input type="checkbox"/>										
28.5 29.4	3	TAWSN2900S32	●	28.5	TAWN2850T	★	<input type="checkbox"/>	100.2	125.2	185.2	32	WS508027T	TKY27T	WPT4405	MK1KS
					TAWNH2850T	●	<input type="checkbox"/>								
				28.6	TAWN2860T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2860T	<input type="checkbox"/>	<input type="checkbox"/>								
				28.7	TAWN2870T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2870T	<input type="checkbox"/>	<input type="checkbox"/>								
				28.8	TAWN2880T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2880T	<input type="checkbox"/>	<input type="checkbox"/>											
		28.9	TAWN2890T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2890T	<input type="checkbox"/>	<input type="checkbox"/>										
		29.0	TAWN2900T	★	<input type="checkbox"/>										
			TAWNH2900T	●	<input type="checkbox"/>										
		29.1	TAWN2910T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2910T	<input type="checkbox"/>	<input type="checkbox"/>										
29.5 30.4	3	TAWSN3000S32	●	29.5	TAWN2950T	★	<input type="checkbox"/>	104.2	125.2	185.2	32	WS508027T	TKY27T	WPT4405	MK1KS
					TAWNH2950T	●	<input type="checkbox"/>								
				29.6	TAWN2960T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2960T	<input type="checkbox"/>	<input type="checkbox"/>								
				29.7	TAWN2970T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2970T	<input type="checkbox"/>	<input type="checkbox"/>								
				29.8	TAWN2980T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2980T	<input type="checkbox"/>	<input type="checkbox"/>											
		29.9	TAWN2990T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH2990T	<input type="checkbox"/>	<input type="checkbox"/>										
		30.0	TAWN3000T	★	<input type="checkbox"/>										
			TAWNH3000T	●	<input type="checkbox"/>										
		30.1	TAWN3010T	<input type="checkbox"/>	<input type="checkbox"/>										
			TAWNH3010T	<input type="checkbox"/>	<input type="checkbox"/>										
5	TAWMN2800S32	●	28.2	TAWN2820T	<input type="checkbox"/>	<input type="checkbox"/>	157.2	180.2	240.2	32	WS508026T	TKY27T	WPT4405	MK1KS	
				TAWNH2820T	<input type="checkbox"/>	<input type="checkbox"/>									
			28.3	TAWN2830T	<input type="checkbox"/>	<input type="checkbox"/>									
				TAWNH2830T	<input type="checkbox"/>	<input type="checkbox"/>									
			28.4	TAWN2840T	<input type="checkbox"/>	<input type="checkbox"/>									
				TAWNH2840T	<input type="checkbox"/>	<input type="checkbox"/>									
				28.2	TAWN2920T	<input type="checkbox"/>									<input type="checkbox"/>
		TAWNH2920T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.2	TAWN2920T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2920T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.3	TAWN2930T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2930T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.4	TAWN2940T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2940T	<input type="checkbox"/>	<input type="checkbox"/>											
	30.2	TAWN3020T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH3020T	<input type="checkbox"/>	<input type="checkbox"/>											
	30.3	TAWN3030T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH3030T	<input type="checkbox"/>	<input type="checkbox"/>											
	30.4	TAWN3040T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH3040T	<input type="checkbox"/>	<input type="checkbox"/>											

U Type Insert



Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWN1550T	★	<input type="checkbox"/>	15.5	7.9	6.0	TAWSN 1600S20
1560T	★	<input type="checkbox"/>	15.6	7.9	6.0	
1570T	★	<input type="checkbox"/>	15.7	7.9	6.0	
1580T	★	<input type="checkbox"/>	15.8	7.9	6.0	
1590T	★	<input type="checkbox"/>	15.9	7.9	6.0	
1600T	★	<input type="checkbox"/>	16.0	7.8	6.0	
1610T	★	<input type="checkbox"/>	16.1	7.8	6.0	
1620T	★	<input type="checkbox"/>	16.2	7.8	6.0	
1630T	★	<input type="checkbox"/>	16.3	7.8	6.0	
1640T	★	<input type="checkbox"/>	16.4	7.8	6.0	
1650T	★	<input type="checkbox"/>	16.5	7.7	6.0	TAWSN 1700S20
1660T	★	<input type="checkbox"/>	16.6	7.7	6.0	
1670T	★	<input type="checkbox"/>	16.7	7.7	6.0	
1680T	★	<input type="checkbox"/>	16.8	7.7	6.0	
1690T	★	<input type="checkbox"/>	16.9	7.7	6.0	
1700T	★	<input type="checkbox"/>	17.0	7.6	6.0	
1710T	★	<input type="checkbox"/>	17.1	7.6	6.0	
1720T	★	<input type="checkbox"/>	17.2	7.6	6.0	
1730T	★	<input type="checkbox"/>	17.3	7.6	6.0	
1740T	★	<input type="checkbox"/>	17.4	7.6	6.0	
1750T	★	<input type="checkbox"/>	17.5	7.5	6.0	TAWSN 1800S20
1760T	★	<input type="checkbox"/>	17.6	7.5	6.0	
1770T	★	<input type="checkbox"/>	17.7	7.5	6.0	
1780T	★	<input type="checkbox"/>	17.8	7.5	6.0	
1790T	★	<input type="checkbox"/>	17.9	7.5	6.0	
1800T	★	<input type="checkbox"/>	18.0	7.4	6.0	
1810T	★	<input type="checkbox"/>	18.1	7.4	6.0	
1820T	★	<input type="checkbox"/>	18.2	7.4	6.0	
1830T	★	<input type="checkbox"/>	18.3	7.4	6.0	
1840T	★	<input type="checkbox"/>	18.4	7.4	6.0	
1850T	★	<input type="checkbox"/>	18.5	9.3	7.0	TAWSN 1900S25
1860T	★	<input type="checkbox"/>	18.6	9.3	7.0	
1870T	★	<input type="checkbox"/>	18.7	9.3	7.0	
1880T	★	<input type="checkbox"/>	18.8	9.3	7.0	
1890T	★	<input type="checkbox"/>	18.9	9.3	7.0	
1900T	★	<input type="checkbox"/>	19.0	9.2	7.0	
1910T	★	<input type="checkbox"/>	19.1	9.2	7.0	
1920T	★	<input type="checkbox"/>	19.2	9.2	7.0	
1930T	★	<input type="checkbox"/>	19.3	9.2	7.0	
1940T	★	<input type="checkbox"/>	19.4	9.2	7.0	

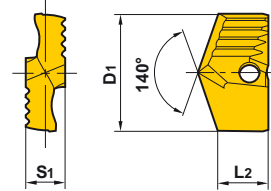
Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWN1950T	★	<input type="checkbox"/>	19.5	9.1	7.0	TAWSN 2000S25
1960T	★	<input type="checkbox"/>	19.6	9.1	7.0	
1970T	★	<input type="checkbox"/>	19.7	9.1	7.0	
1980T	★	<input type="checkbox"/>	19.8	9.1	7.0	
1990T	★	<input type="checkbox"/>	19.9	9.1	7.0	
2000T	★	<input type="checkbox"/>	20.0	9.0	7.0	
2010T	<input type="checkbox"/>	<input type="checkbox"/>	20.1	9.0	7.0	
2020T	<input type="checkbox"/>	<input type="checkbox"/>	20.2	9.0	7.0	
2030T	<input type="checkbox"/>	<input type="checkbox"/>	20.3	9.0	7.0	
2040T	<input type="checkbox"/>	<input type="checkbox"/>	20.4	9.0	7.0	
2050T	★	<input type="checkbox"/>	20.5	8.9	7.0	TAWSN 2100S25
2060T	<input type="checkbox"/>	<input type="checkbox"/>	20.6	8.9	7.0	
2070T	<input type="checkbox"/>	<input type="checkbox"/>	20.7	8.9	7.0	
2080T	<input type="checkbox"/>	<input type="checkbox"/>	20.8	8.9	7.0	
2090T	<input type="checkbox"/>	<input type="checkbox"/>	20.9	8.9	7.0	
2100T	★	<input type="checkbox"/>	21.0	8.8	7.0	
2110T	<input type="checkbox"/>	<input type="checkbox"/>	21.1	8.8	7.0	
2120T	<input type="checkbox"/>	<input type="checkbox"/>	21.2	8.8	7.0	
2130T	<input type="checkbox"/>	<input type="checkbox"/>	21.3	8.8	7.0	
2140T	<input type="checkbox"/>	<input type="checkbox"/>	21.4	8.8	7.0	
2150T	★	<input type="checkbox"/>	21.5	10.3	8.0	TAWSN 2200S25
2160T	<input type="checkbox"/>	<input type="checkbox"/>	21.6	10.3	8.0	
2170T	<input type="checkbox"/>	<input type="checkbox"/>	21.7	10.3	8.0	
2180T	<input type="checkbox"/>	<input type="checkbox"/>	21.8	10.3	8.0	
2190T	<input type="checkbox"/>	<input type="checkbox"/>	21.9	10.3	8.0	
2200T	★	<input type="checkbox"/>	22.0	10.2	8.0	
2210T	<input type="checkbox"/>	<input type="checkbox"/>	22.1	10.2	8.0	
2220T	<input type="checkbox"/>	<input type="checkbox"/>	22.2	10.2	8.0	
2230T	<input type="checkbox"/>	<input type="checkbox"/>	22.3	10.2	8.0	
2240T	<input type="checkbox"/>	<input type="checkbox"/>	22.4	10.2	8.0	
2250T	★	<input type="checkbox"/>	22.5	10.1	8.0	TAWSN 2300S25
2260T	<input type="checkbox"/>	<input type="checkbox"/>	22.6	10.1	8.0	
2270T	<input type="checkbox"/>	<input type="checkbox"/>	22.7	10.1	8.0	
2280T	<input type="checkbox"/>	<input type="checkbox"/>	22.8	10.1	8.0	
2290T	<input type="checkbox"/>	<input type="checkbox"/>	22.9	10.1	8.0	
2300T	★	<input type="checkbox"/>	23.0	10.0	8.0	
2310T	<input type="checkbox"/>	<input type="checkbox"/>	23.1	10.0	8.0	
2320T	<input type="checkbox"/>	<input type="checkbox"/>	23.2	10.0	8.0	
2330T	<input type="checkbox"/>	<input type="checkbox"/>	23.3	10.0	8.0	
2340T	<input type="checkbox"/>	<input type="checkbox"/>	23.4	10.0	8.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWN2350T	★	<input type="checkbox"/>	23.5	9.9	8.0	TAWSN 2400S32 TAWMN 2400S32
2360T	<input type="checkbox"/>	<input type="checkbox"/>	23.6	9.9	8.0	
2370T	<input type="checkbox"/>	<input type="checkbox"/>	23.7	9.9	8.0	
2380T	<input type="checkbox"/>	<input type="checkbox"/>	23.8	9.9	8.0	
2390T	<input type="checkbox"/>	<input type="checkbox"/>	23.9	9.9	8.0	
2400T	★	<input type="checkbox"/>	24.0	9.8	8.0	
2410T	<input type="checkbox"/>	<input type="checkbox"/>	24.1	9.8	8.0	
2420T	<input type="checkbox"/>	<input type="checkbox"/>	24.2	9.8	8.0	
2430T	<input type="checkbox"/>	<input type="checkbox"/>	24.3	9.8	8.0	
2440T	<input type="checkbox"/>	<input type="checkbox"/>	24.4	9.8	8.0	
2450T	★	<input type="checkbox"/>	24.5	11.1	9.0	TAWSN 2500S32 TAWMN 2500S32
2460T	<input type="checkbox"/>	<input type="checkbox"/>	24.6	11.1	9.0	
2470T	<input type="checkbox"/>	<input type="checkbox"/>	24.7	11.1	9.0	
2480T	<input type="checkbox"/>	<input type="checkbox"/>	24.8	11.1	9.0	
2490T	<input type="checkbox"/>	<input type="checkbox"/>	24.9	11.1	9.0	
2500T	★	<input type="checkbox"/>	25.0	11.0	9.0	
2510T	<input type="checkbox"/>	<input type="checkbox"/>	25.1	11.0	9.0	
2520T	<input type="checkbox"/>	<input type="checkbox"/>	25.2	11.0	9.0	
2530T	<input type="checkbox"/>	<input type="checkbox"/>	25.3	11.0	9.0	
2540T	<input type="checkbox"/>	<input type="checkbox"/>	25.4	11.0	9.0	
2550T	★	<input type="checkbox"/>	25.5	10.9	9.0	TAWSN 2600S32 TAWMN 2600S32
2560T	<input type="checkbox"/>	<input type="checkbox"/>	25.6	10.9	9.0	
2570T	<input type="checkbox"/>	<input type="checkbox"/>	25.7	10.9	9.0	
2580T	<input type="checkbox"/>	<input type="checkbox"/>	25.8	10.9	9.0	
2590T	<input type="checkbox"/>	<input type="checkbox"/>	25.9	10.9	9.0	
2600T	★	<input type="checkbox"/>	26.0	10.8	9.0	
2610T	<input type="checkbox"/>	<input type="checkbox"/>	26.1	10.8	9.0	
2620T	<input type="checkbox"/>	<input type="checkbox"/>	26.2	10.8	9.0	
2630T	<input type="checkbox"/>	<input type="checkbox"/>	26.3	10.8	9.0	
2640T	<input type="checkbox"/>	<input type="checkbox"/>	26.4	10.8	9.0	
2650T	★	<input type="checkbox"/>	26.5	10.7	9.0	TAWSN 2700S32 TAWMN 2700S32
2660T	<input type="checkbox"/>	<input type="checkbox"/>	26.6	10.7	9.0	
2670T	<input type="checkbox"/>	<input type="checkbox"/>	26.7	10.7	9.0	
2680T	<input type="checkbox"/>	<input type="checkbox"/>	26.8	10.7	9.0	
2690T	<input type="checkbox"/>	<input type="checkbox"/>	26.9	10.7	9.0	
2700T	★	<input type="checkbox"/>	27.0	10.6	9.0	
2710T	<input type="checkbox"/>	<input type="checkbox"/>	27.1	10.6	9.0	
2720T	<input type="checkbox"/>	<input type="checkbox"/>	27.2	10.6	9.0	
2730T	<input type="checkbox"/>	<input type="checkbox"/>	27.3	10.6	9.0	
2740T	<input type="checkbox"/>	<input type="checkbox"/>	27.4	10.6	9.0	
2750T	★	<input type="checkbox"/>	27.5	12.1	10.0	TAWSN 2800S32 TAWMN 2800S32
2760T	<input type="checkbox"/>	<input type="checkbox"/>	27.6	12.1	10.0	
2770T	<input type="checkbox"/>	<input type="checkbox"/>	27.7	12.1	10.0	
2780T	<input type="checkbox"/>	<input type="checkbox"/>	27.8	12.1	10.0	
2790T	<input type="checkbox"/>	<input type="checkbox"/>	27.9	12.1	10.0	
2800T	★	<input type="checkbox"/>	28.0	12.0	10.0	
2810T	<input type="checkbox"/>	<input type="checkbox"/>	28.1	12.0	10.0	
2820T	<input type="checkbox"/>	<input type="checkbox"/>	28.2	12.0	10.0	
2830T	<input type="checkbox"/>	<input type="checkbox"/>	28.3	12.0	10.0	
2840T	<input type="checkbox"/>	<input type="checkbox"/>	28.4	12.0	10.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWN2850T	★	<input type="checkbox"/>	28.5	11.9	10.0	TAWSN 2900S32 TAWMN 2900S32
2860T	<input type="checkbox"/>	<input type="checkbox"/>	28.6	11.9	10.0	
2870T	<input type="checkbox"/>	<input type="checkbox"/>	28.7	11.9	10.0	
2880T	<input type="checkbox"/>	<input type="checkbox"/>	28.8	11.9	10.0	
2890T	<input type="checkbox"/>	<input type="checkbox"/>	28.9	11.9	10.0	
2900T	★	<input type="checkbox"/>	29.0	11.8	10.0	
2910T	<input type="checkbox"/>	<input type="checkbox"/>	29.1	11.8	10.0	
2920T	<input type="checkbox"/>	<input type="checkbox"/>	29.2	11.8	10.0	
2930T	<input type="checkbox"/>	<input type="checkbox"/>	29.3	11.8	10.0	
2940T	<input type="checkbox"/>	<input type="checkbox"/>	29.4	11.8	10.0	
2950T	★	<input type="checkbox"/>	29.5	11.7	10.0	TAWSN 3000S32 TAWMN 3000S32
2960T	<input type="checkbox"/>	<input type="checkbox"/>	29.6	11.7	10.0	
2970T	<input type="checkbox"/>	<input type="checkbox"/>	29.7	11.7	10.0	
2980T	<input type="checkbox"/>	<input type="checkbox"/>	29.8	11.7	10.0	
2990T	<input type="checkbox"/>	<input type="checkbox"/>	29.9	11.7	10.0	
3000T	★	<input type="checkbox"/>	30.0	11.6	10.0	
3010T	<input type="checkbox"/>	<input type="checkbox"/>	30.1	11.6	10.0	
3020T	<input type="checkbox"/>	<input type="checkbox"/>	30.2	11.6	10.0	
3030T	<input type="checkbox"/>	<input type="checkbox"/>	30.3	11.6	10.0	
3040T	<input type="checkbox"/>	<input type="checkbox"/>	30.4	11.6	10.0	

H Type Insert

NEW



Order Number	Stock		Dimensions (mm)			Applicable Holder	
	VP15TF	VP10H	D1	L2	S1		
TAWNH1400T	●	□	14.0	7.6	5.0	TAWSNH 1400S16	
1410T	●	□	14.1	7.6	5.0		
1420T	●	□	14.2	7.6	5.0		
1430T	●	□	14.3	7.6	5.0		
1440T	●	□	14.4	7.6	5.0	TAWMNH 1400S16	
1450T	●	□	14.5	7.5	5.0	TAWSNH 1500S20	
1460T	●	□	14.6	7.5	5.0		
1470T	●	□	14.7	7.5	5.0		
1480T	●	□	14.8	7.5	5.0		
1490T	●	□	14.9	7.5	5.0		
1500T	●	□	15.0	7.4	5.0		
1510T	●	□	15.1	7.4	5.0		
1520T	●	□	15.2	7.4	5.0		
1530T	●	□	15.3	7.4	5.0		
1540T	●	□	15.4	7.4	5.0		
1550T	●	□	15.5	7.9	6.0	TAWSN 1600S20	
1560T	●	□	15.6	7.9	6.0		
1570T	●	□	15.7	7.9	6.0		
1580T	●	□	15.8	7.9	6.0		
1590T	●	□	15.9	7.9	6.0		
1600T	●	□	16.0	7.8	6.0	TAWMN 1600S20	
1610T	●	□	16.1	7.8	6.0	TAWSN 1700S20	
1620T	●	□	16.2	7.8	6.0		
1630T	●	□	16.3	7.8	6.0		
1640T	●	□	16.4	7.8	6.0		
1650T	●	□	16.5	7.7	6.0		
1660T	●	□	16.6	7.7	6.0		
1670T	●	□	16.7	7.7	6.0		
1680T	●	□	16.8	7.7	6.0		
1690T	●	□	16.9	7.7	6.0		
1700T	●	□	17.0	7.6	6.0		
1710T	●	□	17.1	7.6	6.0	TAWMN 1700S20	
1720T	●	□	17.2	7.6	6.0		
1730T	●	□	17.3	7.6	6.0		
1740T	●	□	17.4	7.6	6.0		
1750T	●	□	17.5	7.5	6.0		TAWSN 1800S20
1760T	●	□	17.6	7.5	6.0		
1770T	●	□	17.7	7.5	6.0		
1780T	●	□	17.8	7.5	6.0		
1790T	●	□	17.9	7.5	6.0		
1800T	●	□	18.0	7.4	6.0		
1810T	●	□	18.1	7.4	6.0		
1820T	●	□	18.2	7.4	6.0		
1830T	●	□	18.3	7.4	6.0		
1840T	●	□	18.4	7.4	6.0		

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWNH1850T	●	□	18.5	9.3	7.0	TAWSN 1900S25
1860T	●	□	18.6	9.3	7.0	
1870T	●	□	18.7	9.3	7.0	
1880T	●	□	18.8	9.3	7.0	
1890T	●	□	18.9	9.3	7.0	
1900T	●	□	19.0	9.2	7.0	
1910T	●	□	19.1	9.2	7.0	
1920T	●	□	19.2	9.2	7.0	
1930T	●	□	19.3	9.2	7.0	
1940T	●	□	19.4	9.2	7.0	
1950T	●	□	19.5	9.1	7.0	TAWMN 1900S25
1960T	●	□	19.6	9.1	7.0	
1970T	●	□	19.7	9.1	7.0	
1980T	●	□	19.8	9.1	7.0	
1990T	●	□	19.9	9.1	7.0	
2000T	●	□	20.0	9.0	7.0	
2010T	□	□	20.1	9.0	7.0	
2020T	□	□	20.2	9.0	7.0	
2030T	□	□	20.3	9.0	7.0	
2040T	□	□	20.4	9.0	7.0	
2050T	●	□	20.5	8.9	7.0	TAWSN 2000S25
2060T	□	□	20.6	8.9	7.0	
2070T	□	□	20.7	8.9	7.0	
2080T	□	□	20.8	8.9	7.0	
2090T	□	□	20.9	8.9	7.0	
2100T	●	□	21.0	8.8	7.0	
2110T	□	□	21.1	8.8	7.0	
2120T	□	□	21.2	8.8	7.0	
2130T	□	□	21.3	8.8	7.0	
2140T	□	□	21.4	8.8	7.0	
2150T	●	□	21.5	10.6	8.0	TAWMN 2100S25
2160T	□	□	21.6	10.6	8.0	
2170T	□	□	21.7	10.6	8.0	
2180T	□	□	21.8	10.6	8.0	
2190T	□	□	21.9	10.6	8.0	
2200T	●	□	22.0	10.5	8.0	
2210T	□	□	22.1	10.5	8.0	
2220T	□	□	22.2	10.5	8.0	
2230T	□	□	22.3	10.5	8.0	
2240T	□	□	22.4	10.5	8.0	
2250T	●	□	22.5	10.4	8.0	TAWSN 2200S25
2260T	□	□	22.6	10.4	8.0	
2270T	□	□	22.7	10.4	8.0	
2280T	□	□	22.8	10.4	8.0	
2290T	□	□	22.9	10.4	8.0	
2300T	□	□	23.0	10.4	8.0	
2310T	□	□	23.1	10.4	8.0	TAWMN 2300S25
2320T	□	□	23.2	10.4	8.0	
2330T	□	□	23.3	10.4	8.0	
2340T	□	□	23.4	10.4	8.0	
2350T	□	□	23.5	10.4	8.0	

● : Inventory maintained. (Note: 2 inserts in one pack) □ : Non stock, produced to order only.

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWNH2300T	●	<input type="checkbox"/>	23.0	10.3	8.0	TAWSN 2300S25
2310T	<input type="checkbox"/>	<input type="checkbox"/>	23.1	10.3	8.0	
2320T	<input type="checkbox"/>	<input type="checkbox"/>	23.2	10.3	8.0	
2330T	<input type="checkbox"/>	<input type="checkbox"/>	23.3	10.3	8.0	
2340T	<input type="checkbox"/>	<input type="checkbox"/>	23.4	10.3	8.0	
2350T	●	<input type="checkbox"/>	23.5	10.2	8.0	TAWSN 2400S32
2360T	<input type="checkbox"/>	<input type="checkbox"/>	23.6	10.2	8.0	
2370T	<input type="checkbox"/>	<input type="checkbox"/>	23.7	10.2	8.0	
2380T	<input type="checkbox"/>	<input type="checkbox"/>	23.8	10.2	8.0	
2390T	<input type="checkbox"/>	<input type="checkbox"/>	23.9	10.2	8.0	
2400T	●	<input type="checkbox"/>	24.0	10.1	8.0	
2410T	<input type="checkbox"/>	<input type="checkbox"/>	24.1	10.1	8.0	
2420T	<input type="checkbox"/>	<input type="checkbox"/>	24.2	10.1	8.0	
2430T	<input type="checkbox"/>	<input type="checkbox"/>	24.3	10.1	8.0	
2440T	<input type="checkbox"/>	<input type="checkbox"/>	24.4	10.1	8.0	
2450T	●	<input type="checkbox"/>	24.5	11.7	9.0	TAWSN 2500S32
2460T	<input type="checkbox"/>	<input type="checkbox"/>	24.6	11.7	9.0	
2470T	<input type="checkbox"/>	<input type="checkbox"/>	24.7	11.7	9.0	
2480T	<input type="checkbox"/>	<input type="checkbox"/>	24.8	11.7	9.0	
2490T	<input type="checkbox"/>	<input type="checkbox"/>	24.9	11.7	9.0	
2500T	●	<input type="checkbox"/>	25.0	11.6	9.0	
2510T	<input type="checkbox"/>	<input type="checkbox"/>	25.1	11.6	9.0	
2520T	<input type="checkbox"/>	<input type="checkbox"/>	25.2	11.6	9.0	
2530T	<input type="checkbox"/>	<input type="checkbox"/>	25.3	11.6	9.0	
2540T	<input type="checkbox"/>	<input type="checkbox"/>	25.4	11.6	9.0	
2550T	●	<input type="checkbox"/>	25.5	11.5	9.0	TAWSN 2600S32
2560T	<input type="checkbox"/>	<input type="checkbox"/>	25.6	11.5	9.0	
2570T	<input type="checkbox"/>	<input type="checkbox"/>	25.7	11.5	9.0	
2580T	<input type="checkbox"/>	<input type="checkbox"/>	25.8	11.5	9.0	
2590T	<input type="checkbox"/>	<input type="checkbox"/>	25.9	11.5	9.0	
2600T	●	<input type="checkbox"/>	26.0	11.4	9.0	
2610T	<input type="checkbox"/>	<input type="checkbox"/>	26.1	11.4	9.0	
2620T	<input type="checkbox"/>	<input type="checkbox"/>	26.2	11.4	9.0	
2630T	<input type="checkbox"/>	<input type="checkbox"/>	26.3	11.4	9.0	
2640T	<input type="checkbox"/>	<input type="checkbox"/>	26.4	11.4	9.0	
2650T	●	<input type="checkbox"/>	26.5	11.3	9.0	TAWSN 2700S32
2660T	<input type="checkbox"/>	<input type="checkbox"/>	26.6	11.3	9.0	
2670T	<input type="checkbox"/>	<input type="checkbox"/>	26.7	11.3	9.0	
2680T	<input type="checkbox"/>	<input type="checkbox"/>	26.8	11.3	9.0	
2690T	<input type="checkbox"/>	<input type="checkbox"/>	26.9	11.3	9.0	
2700T	●	<input type="checkbox"/>	27.0	11.2	9.0	
2710T	<input type="checkbox"/>	<input type="checkbox"/>	27.1	11.2	9.0	
2720T	<input type="checkbox"/>	<input type="checkbox"/>	27.2	11.2	9.0	
2730T	<input type="checkbox"/>	<input type="checkbox"/>	27.3	11.2	9.0	
2740T	<input type="checkbox"/>	<input type="checkbox"/>	27.4	11.2	9.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
TAWNH2750T	●	<input type="checkbox"/>	27.5	12.3	10.0	TAWSN 2800S32
2760T	<input type="checkbox"/>	<input type="checkbox"/>	27.6	12.3	10.0	
2770T	<input type="checkbox"/>	<input type="checkbox"/>	27.7	12.3	10.0	
2780T	<input type="checkbox"/>	<input type="checkbox"/>	27.8	12.3	10.0	
2790T	<input type="checkbox"/>	<input type="checkbox"/>	27.9	12.3	10.0	
2800T	●	<input type="checkbox"/>	28.0	12.2	10.0	
2810T	<input type="checkbox"/>	<input type="checkbox"/>	28.1	12.2	10.0	
2820T	<input type="checkbox"/>	<input type="checkbox"/>	28.2	12.2	10.0	
2830T	<input type="checkbox"/>	<input type="checkbox"/>	28.3	12.2	10.0	
2840T	<input type="checkbox"/>	<input type="checkbox"/>	28.4	12.2	10.0	
2850T	●	<input type="checkbox"/>	28.5	12.1	10.0	TAWSN 2900S32
2860T	<input type="checkbox"/>	<input type="checkbox"/>	28.6	12.1	10.0	
2870T	<input type="checkbox"/>	<input type="checkbox"/>	28.7	12.1	10.0	
2880T	<input type="checkbox"/>	<input type="checkbox"/>	28.8	12.1	10.0	
2890T	<input type="checkbox"/>	<input type="checkbox"/>	28.9	12.1	10.0	
2900T	●	<input type="checkbox"/>	29.0	12.0	10.0	
2910T	<input type="checkbox"/>	<input type="checkbox"/>	29.1	12.0	10.0	
2920T	<input type="checkbox"/>	<input type="checkbox"/>	29.2	12.0	10.0	
2930T	<input type="checkbox"/>	<input type="checkbox"/>	29.3	12.0	10.0	
2940T	<input type="checkbox"/>	<input type="checkbox"/>	29.4	12.0	10.0	
2950T	●	<input type="checkbox"/>	29.5	11.9	10.0	TAWSN 3000S32
2960T	<input type="checkbox"/>	<input type="checkbox"/>	29.6	11.9	10.0	
2970T	<input type="checkbox"/>	<input type="checkbox"/>	29.7	11.9	10.0	
2980T	<input type="checkbox"/>	<input type="checkbox"/>	29.8	11.9	10.0	
2990T	<input type="checkbox"/>	<input type="checkbox"/>	29.9	11.9	10.0	
3000T	●	<input type="checkbox"/>	30.0	11.8	10.0	
3010T	<input type="checkbox"/>	<input type="checkbox"/>	30.1	11.8	10.0	
3020T	<input type="checkbox"/>	<input type="checkbox"/>	30.2	11.8	10.0	
3030T	<input type="checkbox"/>	<input type="checkbox"/>	30.3	11.8	10.0	
3040T	<input type="checkbox"/>	<input type="checkbox"/>	30.4	11.8	10.0	

Recommended Cutting Conditions

Work Material	Drill Diameter Conditions Hardness	$\phi 14.0-\phi 15.4$		$\phi 15.5-\phi 18.4$		$\phi 18.5-\phi 21.4$	
		Cutting Speed (mm/rev)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	$\leq 180\text{HB}$	70 (60-90)	0.20 (0.15-0.25)	80 (60-100)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)
	180-280HB	70 (60-90)	0.20 (0.15-0.25)	80 (60-100)	0.25 (0.20-0.30)	80 (60-100)	0.25 (0.20-0.30)
	280-350HB	60 (50-80)	0.15 (0.12-0.18)	70 (50-90)	0.20 (0.15-0.25)	70 (50-90)	0.20 (0.15-0.25)
M Stainless Steel	$\leq 200\text{HB}$	50 (40-60)	0.15 (0.12-0.18)	50 (40-60)	0.15 (0.12-0.18)	60 (50-70)	0.20 (0.15-0.22)
K Cast Iron	Tensile Strength $\leq 350\text{MPa}$	70 (60-90)	0.20 (0.15-0.25)	80 (60-90)	0.30 (0.20-0.35)	90 (70-110)	0.25 (0.20-0.35)
	Tensile Strength $\leq 450\text{MPa}$	70 (50-90)	0.20 (0.15-0.25)	80 (60-90)	0.25 (0.20-0.30)	80 (60-90)	0.25 (0.20-0.30)

Work Material	Drill Diameter Conditions Hardness	$\phi 21.5-\phi 24.4$		$\phi 24.5-\phi 27.4$		$\phi 27.5-\phi 30.4$	
		Cutting Speed (mm/rev)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	$\leq 180\text{HB}$	100 (80-120)	0.30 (0.25-0.35)	110 (80-120)	0.30 (0.25-0.35)	110 (80-120)	0.30 (0.25-0.35)
	180-280HB	90 (70-110)	0.30 (0.25-0.35)	100 (80-120)	0.30 (0.25-0.35)	100 (80-120)	0.30 (0.25-0.35)
	280-350HB	80 (60-100)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)	90 (70-110)	0.25 (0.20-0.30)
M Stainless Steel	$\leq 200\text{HB}$	60 (50-70)	0.20 (0.15-0.22)	70 (60-80)	0.25 (0.20-0.28)	70 (60-80)	0.25 (0.20-0.28)
K Cast Iron	Tensile Strength $\leq 350\text{MPa}$	100 (80-110)	0.35 (0.25-0.40)	110 (90-120)	0.35 (0.25-0.40)	110 (90-120)	0.40 (0.30-0.45)
	Tensile Strength $\leq 450\text{MPa}$	90 (60-100)	0.30 (0.25-0.35)	100 (80-110)	0.30 (0.25-0.35)	100 (80-110)	0.30 (0.25-0.35)

(Note) Recommended for use only with a rigid machine and set up. Use the internal coolant system when machining stainless steel.
(MQL and mist machining should not be used.)

Notes on Use

Insert Installation

- Remove the clamp screw to install the insert. (H type insert)
- Loosen the clamp screw to install the insert. (U type insert)
- Correctly mesh the insert and the holder serrations, then slide the insert to the bottom of the slot.
- Fasten the clamp screw using the torque wrench provided while holding the insert lightly as shown. (Figure 1)
- Check there is no gap between the bottom of the insert and holder. (Figure 2)

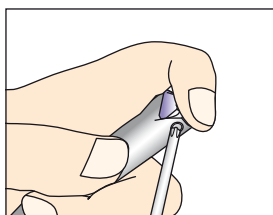


Fig. 1

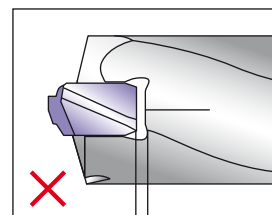
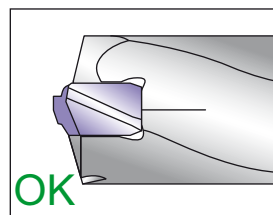


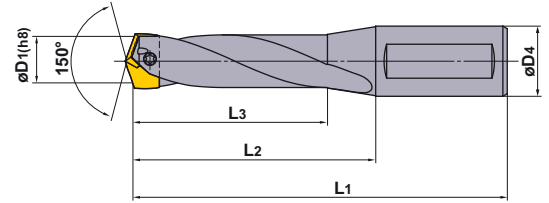
Fig. 2

Insert Replacement

- Thoroughly clean the serrations of the holder before installing a new insert.
Remove heavy dirt in the holder serrations by using the cleaning plate provided.

TAW

(For Bridge Construction Parts)



Holder

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1	D4				
24.5 24.6 24.7	3	TAWSB2500S32	●	24.5	TAWB2450T	★	88.6	110.6	170.6	32	WS406023T	TKY25T	WPT4405	MK1KS
				NEW	TAWBH2450T	●								
				24.6	TAWB2460T	□								
	5	TAWMB2500S32	□	24.6	NEW	TAWBH2460T	□							
				24.7	TAWB2470T	★								
				NEW	TAWBH2470T	●								
26.5 26.7	3	TAWSB2700S32	●	26.5	TAWB2650T	□	94.6	115.6	175.6	32	WS406024T	TKY25T	WPT4405	MK1KS
				NEW	TAWBH2650T	□								
				26.7	TAWB2670T	★								
	5	TAWMB2700S32	□	26.7	NEW	TAWBH2670T	●							
				26.5	TAWB2650T	□								
				26.7	TAWB2670T	★								

(Note) 1.L1, L2, L3 are the dimensions with an H type insert.

2. Please contact us for any type that is not shown in this literature

(e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

● : Inventory maintained. ★ : Inventory maintained in Japan □ : Non stock, produced to order only.

Insert

Shape	Order Number	Stock	Dimensions (mm)			Applicable Holder	Honing Width (mm)	Geometry
			VP15TF	D1	L2			
U type 	TAWB2450T	★	24.5	11.1	9.0	TAWSB2500S32 TAWMB2500S32	0.20-0.25	
	2460T	□	24.6	11.1	9.0			
	2470T	★	24.7	11.1	9.0			
	2650T	□	26.5	10.7	9.0	TAWSB2700S32 TAWMB2700S32		
	2670T	★	26.7	10.7	9.0			
H type 	NEW TAWBH2450T	●	24.5	11.7	9.0	TAWSB2500S32 TAWMB2500S32	0.20-0.25	
	NEW 2460T	□	24.6	11.7	9.0			
	NEW 2470T	●	24.7	11.7	9.0			
	NEW 2650T	□	26.5	11.3	9.0	TAWSB2700S32 TAWMB2700S32		
	NEW 2670T	●	26.7	11.3	9.0			

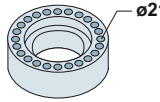
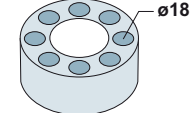
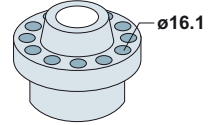
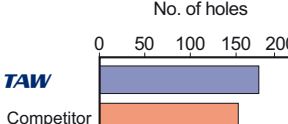
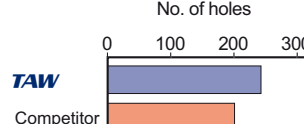
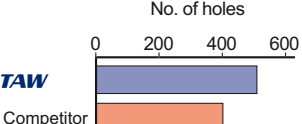
● : Inventory maintained. (Note: 2 inserts in one pack) ★ : Inventory maintained in Japan □ : Non stock, produced to order only.

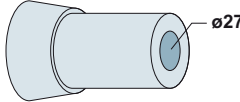
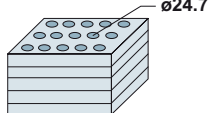
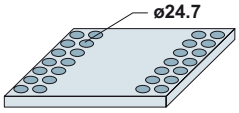
Recommended Cutting Conditions

Work Material	Drill Diameter	φ24.5, φ24.6, φ24.7		φ26.5, φ26.7		
		Conditions	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Structural Steel	Hardness	Tensile Strength ≤400-500 MPa	70 (60-80)	0.30 (0.25-0.35)	70 (60-80)	0.30 (0.25-0.35)
		Tensile Strength ≤490-610 MPa	65 (55-75)	0.30 (0.25-0.35)	65 (55-75)	0.30 (0.25-0.35)
		Tensile Strength ≤570-720 MPa	60 (50-70)	0.30 (0.25-0.35)	60 (50-70)	0.30 (0.25-0.35)

(Note) Recommended for use only with a rigid machine and set up. Use the internal coolant system when machining stainless steel. (MQL and mist machining should not be used.)

Application Examples

Holder	TAWMN2100S25	TAWMN1800S20	TAWSN1600S20	
Insert (Grade)	TAWN2100T (VP15TF)	TAWN1800T (VP15TF)	TAWN1610T (VP15TF)	
Workpiece	ISO 34 CrMo4 	ISO C45 (200HB) 	DIN StE 285 	
Component	Ring	Ring gear	Machine parts	
Cutting Conditions	Cutting Speed (m/min)	55	70	80
	Feed (mm/rev)	0.2	0.3	0.3
	Revolution (min ⁻¹)	833	1238	1582
	Feed Rate (mm/min)	167	371	475
Coolant	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	
Machine Type	Machining centre	Machining centre	Machining centre	
Result				

Holder	TAWSN2700S32	TAWSB2500S32	TAWSB2500S32	
Insert (Grade)	TAWN2700T (VP15TF)	TAWB2470T (VP15TF)	TAWB2470T (VP15TF)	
Workpiece	ISO 18 CrMo4 	BS S335 JR (Laminated boards) 	BS S335 JR 	
Component	Tube	Steel for bridges	Steel for bridges	
Cutting Conditions	Cutting Speed (m/min)	80	77	60
	Feed (mm/rev)	0.3	0.3	0.3
	Revolution (min ⁻¹)	943	992	773
	Feed Rate (mm/min)	283	298	232
Coolant	Water Soluble Oil (Internal coolant)	Mist coolant	Mist coolant	
Machine Type	NC lathe	Gundrill machine	Gundrill machine	
Result	